AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1.   (Currently Amended) A method for analyzing a sample containing particles to detect and characterize target particles having a plurality of detectable characteristics in a fixed volume capillary that contains a fluorescent background and which exhibits background characteristics, the method comprising:

(a) scanning the fixed volume capillary containing the sample to generate a plurality of channels of data, wherein each channel of data comprises a distinct detectable characteristic and a distinct background characteristic;

(b) sampling each of the channels of data to produce corresponding sets of pixel values;

(c) generating sets of enhanced pixel values by independently modifying each set of pixel values to selectively enhance spatial features that are indicative of a target particle;

(d) removing from one or more sets of enhanced pixel values the distinct background characteristic for the corresponding channel;

(e) independently establishing threshold values for the detection of said particles for each set of enhanced pixel values;

(f) independently identifying, in each set of enhanced pixel values, groups of above-threshold pixels located in patterns that are diagnostic of said particles;

(g) independently identifying, for each group of above-threshold pixels located in a diagnostic pattern in a particular set of enhanced pixel values, the corresponding below-threshold or at-threshold pixels in the remaining sets of enhanced ~~pixel values~~ pixels in the remaining spectral channels;

(h) characterizing the target particles in the sample by analyzing the pixels independently identified in steps (f) and (g); and

(i) calculating at least one of:

(I) a volume of the sample scanned; and

(II) an absolute particle count;

wherein particles are initially identified and analyzed in channels with above-threshold pixels located in patterns diagnostic of said particles, and said particles are then independently analyzed in all remaining channels by locating pixels in the same positions as the above-threshold pixels initially identified.

2.   (Currently Amended) A method for analyzing a sample containing particles to detect and characterize target particles having a plurality of detectable characteristics in a fixed volume capillary that contains a fluorescent background and which exhibits background characteristics, the method comprising:

5   (a) scanning the fixed volume capillary containing the sample to generate a plurality of channels of data, wherein each channel of data comprises a distinct detectable characteristic and a distinct background characteristic;

(b) sampling each of the channels of data to produce corresponding sets of source pixel values;

10   (c) summing the sets of source pixel values to generate a composite image;

(d) calculating a threshold for particle detection in said composite image independently in each set of ~~source~~ composite pixel values;

(e) performing particle detection in said composite image using said threshold independently in each set of ~~source~~ composite pixel values using the corresponding threshold;

15   (f) identifying, for each particle identified in a particular set of ~~source~~ composite pixel values in step (e), the corresponding pixels in the remaining sets of source pixel values;

(g) analyzing the pixels identified in step (f); and

(h) calculating at least one of:

(I) a volume of the sample scanned; and

20   (II) an absolute particle count.

3.   (Previously Presented) A method for analyzing a sample containing particles to detect target particles having a plurality of detectable characteristics in a fixed volume capillary that contains a fluorescent background and which exhibits background characteristics, the method comprising:

5   (a) scanning the fixed volume capillary containing the sample to generate a plurality of channels of data, wherein each channel of data comprises a distinct detectable characteristic and a distinct background characteristic;

(b) sampling each of the channels of data to produce corresponding sets of source pixel values;

10   (c) calculating a threshold for particle detection independently in each set of source pixel values without first summing the source images;

(d) performing particle detection independently in each set of source pixel values using the corresponding threshold; and

(e) calculating at least one of:

15   (I) a volume of the sample scanned; and

(II) an absolute particle count.